IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Before the Board of Patent Appeals and Interferences

Ex Parte:	Robin U. Roberts
Application Number:	09/939,624
Filing Date:	August 28, 2001
Title:	SYSTEM AND METHOD FOR ENABLING A RADIO NODE TO SELECTABLY FUNCTION AS A ROUTER IN A WIRELESS COMMUNICATIONS NETWORK
Confirmation No.	4515
Art Unit:	2617
Examiner:	Genack, Matthew W.

BRIEF ON BEHALF OF APPELLANTS UNDER 37 CFR 41.37

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I. REAL PARTY IN INTEREST

The name of the real parties in interest for purposes of this appeal are MeshNetworks, Inc., a Delaware corporation, the assignee of record, and Motorola, Inc., a Delaware corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Applicant, the Applicant's legal representative, or assignee which would directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

III. STATUS OF CLAIMS

Claims 39-62 remain in the application. Claims 39-62 are being appealed. Claims 39-62 stand or fall together.

In a final Office Action dated July 15, 2008, Claims 39, 43-44, 46-47, 51-53, and 57-59 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ogier et al., U.S. Patent No. 6,845,091, in view of An et al , U.S. Patent No. 6, 813,272. Further, Claims 40-41, 45, and 54-55 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 and further in view of Orava (U.S. Patent Application Publication 2002/0071477). Further, Claims 42 and 56 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ogier et al in view of An et al U.S. Patent No. 6,813,272 in further view of Susnow et al (U.S. Patent Application Publication 2002/0159385). Further, Claims 48-50 and 60-62 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ogier et al in view An et al U.S. Patent No. 6,813,272 and further in view of Larson et al (U.S. Patent No. 6,810,428). Claims 1 through 38 have been cancelled.

IV. STATUS OF AMENDMENTS

No amendments have been made subsequent to the Final Office Action mailed July 15, 2008.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Although specification citations are inserted below in accordance with 37 C.F.R. § 41.37, these reference numerals and citations are merely examples of where support may be found in the specification for the terms used in this section of the brief. There is no intention to in any way suggest that the terms of the Claims are limited to the examples in the specification. Although, as demonstrated by the reference numerals and citations below, the Claims are fully supported by the specification as required by law, it is improper under the law to read limitations from the specification into the Claims. Pointing out specification support for the claim terminology, as is done here to comply with rule 41.37, does not in any way limit the scope of the Claims to those examples from which they find support. Nor does this exercise provide a mechanism for circumventing the law precluding reading limitations into the Claims from the specification. In short, the reference numerals and specification citations are not to be construed as claim limitations or in any way used to limit the scope of the Claims.

The invention, as defined in Claim 39 is an adhoc multi-hopping wireless communications network (100) comprising: a plurality of nodes (102) communicatively coupled within the adhoc wireless communication network (100), wherein each of the plurality of nodes (102) is capable of operating in an operational state comprising: an off state, an active and relay state, wherein in the active and relay state, a node (102) receives data packets addressed to the node (102) and transmits data packets sourced by the node (102), and further wherein the node (102) receives and transmits a relay of data packets addressed to at least one other node (102), and an active and non-relay state, wherein in the active and non-relay state a node (102) receives data packets addressed to the node (102) and transmits packets sourced by the node (102), and further wherein the node (102) does not relay data packets address to any other node (102), *(See, for example, paragraphs [0022] to [0027] of Applicant's original specification.)* the plurality of nodes (102) comprising one or more categories of nodes, wherein each category of node defines the operational state for each node (102) within the category, and further wherein, the operational state of each of the plurality of nodes (102) can be dynamically determined by one or more immediate neighbor nodes during route establishment dependent upon the category of the originating node. *(See, for example, paragraph [0026] of Applicant's original*

specification.) (In general, see for example, FIGs. 3 and 4 and associated text of paragraphs [0027] through [0037] of Applicant's original specification as filed.)

The invention, as defined in Claim 52 is an adhoc multi-hopping wireless communications network (100) comprising: a plurality of nodes (102) communicatively coupled within the adhoc wireless communication network (100), wherein each of the plurality of nodes (102) is capable of operating in an operational state comprising: an off state, an active and relay state, wherein in the active and relay state, a node (102) receives data packets addressed to the node (102) and transmits data packets sourced by the node (102), and further wherein the node (102) receives and transmits a relay of data packets addressed to at least one other node (102), and an active and non-relay state, wherein in the active and non-relay state a node (102) receives data packets addressed to the node (102) and transmits packets sourced by the node (102), and further wherein the node (102) does not relay data packets address to any other node (102), *(See, for example, paragraphs [0022] to [0027] of Applicant's original specification.)* wherein each of the plurality of nodes (102) is adapted to: determine its operational state, and inform one or more immediate neighbor nodes of the operational state. *(See, for example, paragraph [0032] of Applicant's original specification.) (In general, see for example, FIGs. 3 and 4 and associated text of paragraphs [0027] through [0037] of Applicant's original specification as filed.)*

Accordingly, the invention as defined by independent Claims 39 and 52 includes recitation that each node "is capable of operating in an operational state comprising: *an off state, an active and relay state, …and an active and non-relay state, …*" These claimed features are not disclosed in the references cited by the Examiner.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether Claims 39, 43-44, 46-47, 51-53, and 57-59 are unpatentable under 35 U.S.C. 103(a) over Ogier et al., U.S. Patent No. 6,845,091, in view of An et al , U.S. Patent No. 6, 813,272.

B. Whether Claims 40-41, 45, and 54-55 are unpatentable under 35 U.S.C. 103(a) over Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 and further in view of Orava (U.S. Patent Application Publication 2002/0071477).

C. Whether Claims 42 and 56 are unpatentable under 35 U.S.C. 103(a) over Ogier et al in view of An et al U.S. Patent No. 6,813,272 in further view of Susnow et al (U.S. Patent Application Publication 2002/0159385).

D. Whether Claims 48-50 and 60-62 are unpatentable under 35 U.S.C. 103(a) over Ogier et al in view An et al U.S. Patent No. 6,813,272 and further in view of Larson et al (U.S. Patent No. 6,810,428).

VII. ARGUMENT

A. Whether Claims 39, 43-44, 46-47, 51-53, and 57-59 are unpatentable under 35 U.S.C. 103(a) over Ogier et al., U.S. Patent No. 6,845,091, in view of An et al , U.S. Patent No. 6, 813,272.

To establish a prima facie case of obviousness, and hence to find Claims 39, 43-44, 46-47, 51-53, and 57-59 not patentable under 35 U.S.C. 103(a) over Ogier et al., U.S. Patent No. 6,845,091, in view of An et al , U.S. Patent No. 6,813,272. three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not be based upon applicant's disclosure. MPEP at § 2142.

Applicant respectfully submits that the combination of Ogier et al., U.S. Patent No. 6,845,091, and An et al , U.S. Patent No. 6, 813,272 does not teach or suggest all the claim limitations as set forth in Claims 39, 43-44, 46-47, 51-53, and 57-59. Specifically, independent Claims 39 and 52 include "…each of the plurality of nodes is capable of operating in an operational state comprising: an off state, an active and relay state, wherein in the active and relay state, a node receives data packets addressed to the node and transmits data packets sourced by the node, and further wherein the node receives and transmits a relay of data packets addressed to at least one other node, and an active and non-relay state, wherein in the active and non-relay state a node receives data packets addressed to the node and transmits packets sourced by the node, and further wherein the node does not relay data packets address to any other node, which are not anticipated by the combination of Ogier and An.

Applicant respectfully submits that Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 does not describe nor anticipate Applicant's invention as claimed in Independent claims 39 and 52.

Ogier et. al., column 29 lines 19 & 20, describes "The current state of the link to neighbor node B, which can be "heard", "symmetric", or "lost"." Ogier et al column 29 lines 31 to 40 describe three possible states of a neighbor node B have the following meaning at node A:

"Heard": A complete HELLO message was received from neighbor node B within the last K*HELLO_INTERVAL seconds, but it is unknown whether neighbor node B can hear node A.

"Symmetric": Nodes A and B can hear each other.

"Lost": No complete HELLO message has been received from neighbor node B within the last K*HELLO_INTERVAL seconds.

Applicant respectfully disagrees with the contention in the Office Action, that the states described in Ogier equate to the states claimed in Claims 39 and 52. Specifically, the Office Action equates the states from Ogier to our states as follows:

Lost off state

Heard active, non-relay

Symmetric active, relay

Applicant respectfully disagrees with the interpretation that the "Heard" state is equivalent to the "active, non-relay" state. Claims 39 and 52 describe that in the

"active, non-relay" state, the node will still participate in the network, but only for sending and receiving it's own traffic. The "active" part describes network participation, not the functional state of the node. And the "non-relay" part says it can not/will not relay traffic for other nodes. Ogier's "Heard" state does not define the equivalent state. The definition for the "Heard' state in Ogier says "it is unknown whether neighbor node B can hear node A". As the Office Action states: "it may not be able to hear it's neighboring node". This presents three possibilities:

1. Node B can not hear node A, and A-B is the only available link.

2. Node B can not hear node A, but an alternate link is available for return communication from A to B.

3. Node B can hear node A. This is a transitory condition that will become the "Symmetric" state, since B must soon hear node A's Hello message. In the interim, Node B will operate either as 1 or 2, above.

For #1, while Node B is functional and not relaying data, it is not active in the network because it cannot receive it's own data. So the equivalent state would be "not active, not relay", which is functionally the same as our "off" state. Case #1 describes Node B that is functional, but not active in the network, since it cannot receive any traffic. It cannot receive it's own traffic. And since it cannot receive any other traffic, there is it no traffic to relay either. So the equivalent state would be "not active, not relay", which is most similar to our "off" state.

Case #2 describes Node B that is active in the network, since both a B-to-A and A-to-B links exist. So Node B can both send and receive traffic. But there is nothing in the state information to differentiate between types of traffic, so it will both send and receive it's own traffic as well as send and receive other traffic (relay). So the equivalent state is "active, relay".

Applicant further respectfully submits that the combination of Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 does not provide a reasonable expectation of success. Specifically, it is clear that the combination of Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 would not work, for the following reasons.

The common use of the term QoS is related to the needs of the packet traffic. In, the stated Field of the Invention of An et al suggests this interpretation (Column 1 Lines 2-12). The usage of the term QoS in the An patent supports this interpretation.

In contrast, Applicant's claimed invention is based entirely on the needs of the node whether to relay or not, not the needs of the packet stream. All claims are that a node can choose to not participate as a relay node, regardless of the impact to the network or packet traffic. Since Applicant's claims are in direct opposition to the needs stated in the Field of Invention in An et. al., it would NOT be obvious for someone to extend the common usage of a QoS mechanism to allow a node to operate in what would be a detrimental manner.

Further, Applicant respectfully disagrees with the explanation in the Office Action that efficiency is important, and is provided as justification for extending Ogier et. al. The two mechanisms function differently. The Office Action states that "though these nodes send and receive data for QoS determination, they are simply not part of those selected path for the new call". So neighbor nodes still send messages to non-relay nodes for routing, And the non-relay nodes must still perform QoS calculations and respond. But since they will not relay, they have no usable outbound relay paths, the QoS value returned will indicate no usable routes at this node.

In Applicant's claimed invention, in contrast, the non-relay information is distributed in advance to neighboring nodes, where it is retained. The neighboring nodes never even send a routing attempt to a non-relay node for routing (see [0034]-[0036]).

In summary, while an undefined QoS mechanism could be extended to include a value to prevent relaying, it would not be obvious to modify QoS in the manner we describe, since this in contrary to the intent of QoS mechanisms, and the efficiency justification is not valid.

Therefore, the combination of Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 does not provide a reasonable chance of success nor is there any motivation to combine such references. Therefore, Applicant respectfully submits that Claims 39 and 52 are patentable over the cited art.

Regarding Claims 43-44, 46-47, 51, 53, and 57-59, Applicants submit that Claims 43-44, 46-47, 51, 53, and 57-59 are patentable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be patentable above. In addition, Applicants submit that claims 43-44, 46-47, 51, 53, and 57-59 are also independently patentable because they include limitations not taught or suggested by the cited reference.

Therefore, since Claims 39, 43-44, 46-47, 51-53, and 57-59 recite patentable subject matter, Applicants respectfully submit that Claims 39, 43-44, 46-47, 51-53, and 57-59 are in proper condition for allowance and request that the rejection of Claims 39, 43-44, 46-47, 51-53, and 57-59 under 35 U.S.C. 103(a) over Ogier et al., U.S. Patent No. 6,845,091, in view of An et al , U.S. Patent No. 6, 813,272 be withdrawn.

B. Whether Claims 40-41, 45, and 54-55 are unpatentable under 35 U.S.C. 103(a) over Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 and further in view of Orava (U.S. Patent Application Publication 2002/0071477).

Applicants submit that Claims 40-41, 45, and 54-55 are patentable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above.

Therefore, since Claims 40-41, 45, and 54-55 recite patentable subject matter, Applicants respectfully submit that Claims 40-41, 45, and 54-55 are in proper condition for allowance and request that the rejection of Claims 40-41, 45, and 54-55 under 35 U.S.C. 103(a) over Ogier et al., U.S. Patent No. 6,845,091 in view of An et al U.S. Patent No. 6,813,272 and further in view of Orava (U.S. Patent Application Publication 2002/0071477) be withdrawn.

C. Whether Claims 42 and 56 are unpatentable under 35 U.S.C. 103(a) over Ogier et al in view of An et al U.S. Patent No. 6,813,272 in further view of Susnow et al (U.S. Patent Application Publication 2002/0159385).

Applicants submit that Claims 42 and 56 are patentable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be patentable above.

Further, applicant respectfully submits that Ogier et al An et al U.S. Patent No. 6,813,272 in view of An et al U.S. Patent No. 6,813,272 in further view of Susnow does not anticipate Applicant's invention as claimed in the further limitations of claims 42 and 56. Specifically, the credit system described by Susnow is a flow control mechanism to control the number of packets sent to an intermediate node by a source node [0048]. This number is dynamically updated as the intermediate node empties it's buffers, allowing the source node to send more packets [0049]. This

provides the intermediate node temporary relief when the source node sends more packets than can be handled, a form of congestion control.

Applicant's invention of claims 42 and 46 are an economic credit [0037] for helping in the multi-hop network. When the maximum credits are accumulated, the node stops helping in the network (changes from relaying to non-relaying). The node continues to participate in the network, it just doesn't help as a relay point for other nodes. This is not done to prevent inundation of the node, simply to limit the economic credit that can be received. Applicant respectfully submits that it would not be obvious to one of ordinary skill to extend the concept of flow control to economic credits. Plus, intermediate nodes in Susnow cannot completely stop relaying without breaking the network, it's only a temporary condition. In Applicant's network, a node can stop relaying and still participate in the network. Other nodes will simply find an alternate route. An economic credit system has no relation to flow control. The reason for economic credits is the different goals for the network vs. the user. In a multi-hop network, relaying packets can be important to the network, but can be detrimental to a user, so the credits provide the economic incentive for a user to relay packets. The maximum value is present only to limit economic exposure by the network operator.

Therefore, since Claims 42 and 56 recite patentable subject matter, Applicants respectfully submit that Claims 42 and 56 are in proper condition for allowance and request that the rejection of Claims 42 and 56 under 35 U.S.C. 103(a) over Ogier et al in view of An et al U.S. Patent No. 6,813,272 in further view of Susnow et al (U.S. Patent Application Publication 2002/0159385) be withdrawn.

D. Whether Claims 48-50 and 60-62 are unpatentable under 35 U.S.C. 103(a) over Ogier et al in view An et al U.S. Patent No. 6,813,272 and further in view of Larson et al (U.S. Patent No. 6,810,428).

Applicants submit that Claims 48-50 and 60-62 are patentable over the cited references based on their dependencies upon claims 39 and 52 which claims were shown to be allowable above.

Therefore, since Claims 48-50 and 60-62 recite patentable subject matter, Applicants respectfully submit that Claims 48-50 and 60-62 are in proper condition for allowance; and request that the rejection of Claims 48-50 and 60-62 under 35

U.S.C. 103(a) over Ogier et al in view An et al U.S. Patent No. 6,813,272 and further in view of Larson et al (U.S. Patent No. 6,810,428) be withdrawn.

For the reasons set forth above, Applicant submits that the Examiner has incorrectly rejected Claims 39-62 and requests that the Board withdraw the rejections.

Respectfully submitted,

Enclosures

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VIII. CLAIMS APPENDIX

39. An adhoc multi-hopping wireless communications network comprising:

a plurality of nodes communicatively coupled within the adhoc wireless communication network, wherein each of the plurality of nodes is capable of operating in an operational state comprising:

an off state,

an active and relay state, wherein in the active and relay state, a node receives data packets addressed to the node and transmits data packets sourced by the node, and further wherein the node receives and transmits a relay of data packets addressed to at least one other node, and

an active and non-relay state, wherein in the active and non-relay state a node receives data packets addressed to the node and transmits packets sourced by the node, and further wherein the node does not relay data packets address to any other node,

the plurality of nodes comprising one or more categories of nodes, wherein each category of node defines the operational state for each node within the category, and

further wherein, the operational state of each of the plurality of nodes can be dynamically determined by one or more immediate neighbor nodes during route establishment dependent upon the category of the originating node.

40. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes comprises a mechanism for receiving one or more user configuration information, and further wherein the operational state of each of the plurality of nodes is further determined using the user configuration information.

41. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes comprises a mechanism for receiving one or more network configuration information, and further wherein the operational state of each of the plurality of nodes is further determined using the network configuration information.

42. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes is further adapted to receive one or more economic credits for relaying one or more packets,

wherein each of the plurality of nodes includes an associated current number of economic credits and an associated maximum number of economic credits, and

further wherein the operational state of a node is set to an active and non-relay state when the associated current number of credits is at least equal to the maximum number of economic credits.

43. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes is adapted to inform one or more other immediate neighbor nodes of the operational state.

44. An adhoc multi-hopping wireless communications network as claimed in claim 43, wherein each of the plurality of nodes is further adapted to inform the one or more other immediate neighbor nodes of a change in the operational state.

45. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes is further adapted to provide configuration information to one or more other immediate nodes for use in the one or more immediate nodes determining the operational state of the node.

46. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein the category of at least one of the plurality of nodes comprises a non-network infrastructure component category, and further wherein the operational state is set to an active and non-relay state for each of the plurality of nodes of the non-network infrastructure component category.

47. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein an immediate neighbor node is a group member of a closed user group, and further wherein the originating node comprises a non-group member of the closed user group, and further wherein the operational state of the immediate neighbor node is set to an active and non-relay state in response to the category of the originating node comprising a non-group member of the closed user group.

48. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the plurality of nodes has an associated node class, and further wherein the operational state of each immediate neighbor node is determined by the relationship between the originating node's associated class and the immediate neighbor node's associated class.

49. An adhoc multi-hopping wireless communication network as claimed in claim 48, wherein the operational state of the immediate neighbor node is set to an active and relay state when the immediate neighbor node's associated class comprises a class selected from a class group comprising a line powered device, a high remaining battery life device, a least interference device, a least energy device, and a high performance device.

50. An adhoc multi-hopping wireless communication network as claimed in claim 48, wherein the operational state of the immediate neighbor node is set to an active and non-relay state when the immediate neighbor node's associated class comprises a class selected from a class group comprising a battery powered device, a low remaining battery life device, a high interference device, a high energy device, and a low performance device.

51. An adhoc multi-hopping wireless communications network as claimed in claim 39, wherein each of the one or more immediate neighbor nodes comprises a neighbor table stored in a memory for use in determining the operational state of the plurality of nodes.

52. An adhoc multi-hopping wireless communications network comprising:

a plurality of nodes communicatively coupled within the adhoc wireless communication network, wherein each of the plurality of nodes is capable of operating in an operational state comprising:

an off state,

an active and relay state, wherein in the active and relay state, a node receives data packets addressed to the node and transmits data packets sourced by the node, and further wherein the node receives and transmits a relay of data packets addressed to at least one other node, and

an active and non-relay state, wherein in the active and non-relay state a node receives data packets addressed to the node and transmits packets sourced by the node, and further wherein the node does not relay data packets address to any other node,

wherein each of the plurality of nodes is adapted to:

determine its operational state, and

inform one or more immediate neighbor nodes of the operational state .

53. An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes is further adapted to inform the one or more immediate neighbor nodes of a change in the operational state.

54. An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes comprises a mechanism for receiving one or more network configuration information, and further wherein the operational state of each of the plurality of nodes is further determined using the network configuration information.

55. An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes comprises a mechanism for receiving one or more user configuration information, and further wherein the operational state of each of the plurality of nodes is further determined using the user configuration information.

56. An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes is further adapted to receive one or more economic credits for relaying one or more packets, and

wherein each of the plurality of nodes includes an associated current number of economic credits and an associated maximum number of economic credits, and

further wherein the operational state of a node is set to an active and non-relay state when the associated current number of credits is at least equal to the maximum number of economic credits.

57. An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein each of the plurality of nodes is further adapted to inform the one or more other immediate neighbor nodes of a change in the operational state.

58. An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein the category of at least one of the plurality of nodes comprises a non-network infrastructure component category, and further wherein the operational state is set to an active and non-relay state for each of the plurality of nodes of the non-network infrastructure component category.

59. An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein at least one of the plurality of nodes is a group member of a closed user group, and further wherein a packet originating node comprises a non-group member of the closed user group, and further wherein the operational state of the at least one of the plurality of nodes is set to an active and non-relay state in response to the category of the packet originating node comprising a non-group member of the closed user group.

60. An adhoc multi-hopping wireless communications network as claimed in claim 52, wherein at least one of the plurality of nodes has an associated node class, and further wherein the operational state of each of the at least one of the plurality of nodes is determined by the relationship between a packet originating node's associated class and the at least one of the plurality of node's associated class.

61. An adhoc multi-hopping wireless communication network as claimed in claim 60, wherein the operational state of the at least one of the plurality of nodes is set to an active and relay state when the at least one of the plurality of nodes' associated class comprises a class selected from a class group comprising a line powered device, a high remaining battery life device, a least interference device, a least energy device, and a high performance device.

62. An adhoc multi-hopping wireless communication network as claimed in claim 60, wherein the operational state of the at least one of the plurality of nodes is set to an active and non-relay state when the at least one of the plurality of nodes' associated class comprises a class selected from a class group comprising a battery powered device, a low remaining battery life device, a high interference device, a high energy device, and a low performance device.

IX. EVIDENCE APPENDIX

No evidence has been submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132, entered by the examiner and relied upon by the appellant in the appeal, or relied upon by the examiner as to grounds of rejection to be reviewed on appeal.

X. RELATED PROCEEDINGS APPENDIX

No decisions have been rendered by a court of the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 C.F.R. § 41.37.